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Changing Concepts in Medical Treatment

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• In a community—even a small one—where physicians established in practice have intensity of purpose, continuing curiosity, healthy skepticism and the spirit of research, the medical atmosphere is one to attract and welcome young physicians who are recently graduated and eager to apply the knowledge gained from the specialists who taught them in medical schools.

As the modern laboratory and other facilities and equipment now in use in teaching institutions become available in more and more small communities, general practice remote from the medical centers probably will have increasing allure for neophyte physicians upon whom great influence is being brought to bear to induce them to practice medicine where the need is greatest.

Knowledge of the changes in concepts of medical treatment that have taken place in the life-span of the physicians already established in a community will help the young physician fit himself congenially and effectively into the methods of practice of his elder colleagues, with mutual benefit.

A PHYSICIAN graduating from medical school today will take one or two years of internship and be ready to practice medicine when he is about 26 to 30 years old. The expected span of professional life of the physician is 30 to 40 years, although it is not unusual for a physician to have 50 or more years in practice.

Specialism, requiring longer training, has tended in recent years to extend from medical centers and larger cities into smaller cities. Now almost any city of 25,000 or more population has well trained physicians representing most of the established specialties in medicine and surgery. Today in the suburban areas of the larger cities, hospitals and clinics are being established for the greater convenience of patients and their families. These developments are providing the general practitioner with more available consultation service and better facilities to carry on practice. This trend has encouraged young practitioners to prepare themselves better in postgraduate study, and eventually some of them may go over into some degree of specialty practice. In spite of this trend there are many influences being brought to bear, both in medical schools and in medical societies, upon young physicians to go into general practice.

In the beginning of their training most medical students look forward to general practice. Undergraduate medical education necessarily is segmented into courses, which are designed primarily within the departments of medicine and surgery and their subspecialties. These subjects should be taught from the viewpoint of making a good general physician and not a specialist. Specialty training belongs to

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the postgraduate phase of medical education, but in the plan of clinical instruction in medical schools the teaching is done almost always by a specialist. The influence of a forceful teacher in a specialty, and of the apparent advantages of specialty practice in a medical center or large city, will cause some students to draw away from general practice. A recently graduated physician recognizes he has been highly trained in methods which will require greater or different facilities than will be available for general practice in a smaller community. However, several recent developments—the establishment of departments of general practice in hospital staffs, residencies in general practice, and societies devoted to the purposes of general practice—may result in an increase in the number of recent graduates going into general practice.

The availability of modern laboratory and other facilities and equipment in the smaller communities, supplied by hospitals, by group practice, or by clinics, will do a great deal to encourage young physicians to go into general practice, for then they would have the tools and skills with which they had learned to work, and they could maintain stimulating and genuine interest in general practice. Perhaps these advantages alone will have more influence than anything else in getting recent graduates to practice in rural and small communities. It is untenable to think these young physicians are being overtrained in light of present knowledge; a double standard in medical education will not result in putting the better trained physicians in the community where they are needed most.

For the purpose of developing the theme of this discussion, a town has been selected which has a population of about 4,000, including the surrounding rural area. The nearest hospital is about 25 miles away. A physician who was graduated in 1950, after one year of rotating internship, has come there to establish practice. Four other physicians have been there for several years. The eldest, now 50 years in practice, is retiring but expects to remain in the town, and it is with the thought of replacement that this young man has come there. The other three physicians, each from a different medical school, were graduated 26 years, 18 years, and 10 years ago respectively. The journal of the state medical society, the *Journal of the American Medical Association,* and a new medical book occasionally, have been the chief sources of medical literature; and occasional attendance at the annual meeting of the state medical society and irregular attendance at the meetings of the county medical society, 25 miles away, have been (over a number of years) the main contacts for these four physicians with the outside medical profession.

The new young physician has an important, and perhaps difficult, problem in adjusting his viewpoint and training to the methods, customs and materials in prevalent use by his colleagues, and in adjusting his methods of practice to a community that has been long accustomed to the ways of his colleagues. It would be most helpful to him if he could know the changing concepts of medical treatment of the common diseases over the period of the last 25 to 50 years; it would help him to understand the viewpoints of his older colleagues and their advice and guidance in consultations and everyday associations, and thereby avoid unpleasantness, criticisms and anxieties that will be lessened with professional seasoning.

A review of the changes over a period of 25 to 50 years in the concepts in medical treatment of any one of a number of common diseases, such as pneumonia, peptic ulcer or rheumatic valvular heart disease, would serve to illustrate the application of such information. The medical curriculum is so crowded today that there is time only for teaching the current concepts and methods, but a review of the changing concepts would be an effective and realistic way of teaching medical history.

Forty to fifty years ago there were only a few specific remedies for particular diseases. Diagnosis was dependent largely on meticulous characterization of symptoms and physical findings to fit a known disease or syndrome, and treatment consisted of applying the most effective remedy known, which might be purely empirical. So-called symptomatic treatment was at its height. Even though the physician could not cure the disease he was expected to treat the patient and ameliorate the disease, or in some way make him more comfortable and willing to live with the disease. Drugs known as alteratives were a part of the therapeutic armamentarium—drugs which seemed to help in some effective way, although their action and method of action remained a mystery. As it was realized that large doses of potent remedies could have deleterious effects, there was a tendency to revert to small doses, which might be ineffective in producing the desired relief of symptoms; for instance, the small tonic doses of digitalis, arsenic and other drugs. Since the metabolism of iron in the body demanded only a minute daily requirement, there was no object, it was felt, in using massive doses of iron to treat anemia. Polypharmacy had its day. Bitter professional battles were fought over the choice of drugs, the dosage, and the methods of using them.

Another decade or two later was characterized as a period of therapeutic nihilism. Clinical practice had been influenced greatly by what had been learned, at autopsy, of pathologic changes. Faith in

many drugs was lost. Laboratory methods were developed and became more widely applicable in practice. Around 1920 emphasis in teaching and in practice was on diagnosis. Students in many medical schools in those days complained to their teachers about the inadequacy of training in therapy, and often were told that the important function of the medical school was to teach diagnosis, that treatment would be learned during the hospital internship, that once the diagnosis was accomplished, treatment would be standard and reasonably easy.

With this trend, the basic sciences allied to medicine took on an enlarged application to practice. The teaching of the preclinical sciences became more profound, both in hours of instruction and content of curriculum. There were fewer doctors of medicine and more doctors of philosophy teaching these preclinical subjects, and this trend has developed until today most teachers of preclinical subjects in medical schools are not physicians. Research by these scientists has become a large part of the activities and responsibilities of the medical schools, and that research has been done with intent of clinical application, either in the better understanding of disease processes, or in the treatment of disease. Indeed, these researches are largely responsible for the present-day concepts of medical treatment. The anatomist no longer teaches morphology alone, but the relation of structure to function. The physiologist has contributed much to the understanding of symptoms as related to disturbed function of an organ or system. The biochemist has developed methods to study altered metabolism, and has devised or created new compounds to correct metabolic derangements and new substances with which to treat disease in a more specific way. The pharmacologist has restudied old drugs more thoroughly with new methods, has investigated new compounds for their effectiveness against specific disease or against symptoms of physiologic disturbance and altered metabolism associated with the disease. The microbiologist has made discoveries of previously unknown organisms that cause disease and has aided in the selection of effective new agents to combat these infections.

With all of these developments during the past decade or so, we are living medically in a happy and enthusiastic therapeutic age. No longer are the knowledge and responsibility limited to a single effective therapeutic agent against a specific disease. The more or less specific agent may combat the disease effectively, but some symptoms may remain, or occur, which can or should be corrected by other therapeutic agents through their pharmacodynamic effects, or influence, on physiologic disturbance or altered metabolism. Indeed, a previously described disease may no longer be a disease in the strictest sense, but a condition characterized by symptoms associated with a disturbance in physiologic function, which can be corrected by certain therapeutic agents. Some of the previously poorly understood clinical conditions may be removed from the realm of psychoneuroses.

In reality we are in an era when we must be aware of the possibility of overtreatment, which may be almost as undesirable as therapeutic nihilism. The recent graduate, imbued with this viewpoint and enthusiasm, may be tempted to the employment of a therapeutic agent without accurate diagnosis, largely on a therapeutic trial basis, reverting to what in effect is the modern form of so-called symptomatic treatment. Healthy skepticism and scientific honesty will aid in keeping this type of treatment, when justified, above superficiality.

The neurophysiologist has added greatly to the understanding of the symptoms related to the imbalance of the sympathetic and autonomic nervous systems and the influence of an unstable neurovascular mechanism in many clinical syndromes. Psychiatry has enlarged its interests beyond the psychoses and has contributed much to reemphasize the importance of treating not merely a disease but the patient as a whole. Every physician who accomplishes practice in its fullest sense must practice psychiatry to some degree, at least in an informal way. The more formal recognition of this phase of treatment today should not change the general physician in his viewpoint or responsibility; it should make him more consciously aware of the role played by the psyche and increase the utilization of his inherent ability in this field. It is not new knowledge that the emotions and anxiety states are important factors in the cause and treatment of peptic ulcer, hypertension and a variety of other diseases, but the present understanding of coping with these factors adds greatly to the effectiveness of the management and treatment of these diseases. What with the enthusiasm about psychiatry today and the difficulties surrounding the selection of cases for formal psychotherapy, a physician doing general practice needs more than ever to keep his sense of equanimity and avoid the pitfalls of overlooking organic disease. The patient with serious organic disease may have many symptoms related to an anxiety state, which may increase or modify the course of that disease, and he should receive any possible benefit from psychiatric care, informal or otherwise, in addition to indicated treatment of the organic disease. This viewpoint has particular application in the care of the aged.

The development of the specialties and of courses in postgraduate education has put advanced information and knowledge, new instruments and precision equipment, and new skills within the reach of

almost all patients except those in the most remote areas. A physician in general practice is in position to be aware of these advantages for his patients. A medical student is taught by a specialist to make examinations in the specialty fields; he learns to do by doing, with less emphasis on the didactic lecture method of teaching. He uses the electrocardiograph, the fluoroscope, the ophthalmoscope, the proctoscope and other specialty diagnostic instruments. This does not make him a cardiologist, radiologist, ophthalmologist or other specialist, but he has a more comprehensive understanding of a patient's condition, and if he remains aware of what is beyond his ability to interpret and treat, he will select the proper consultant for the patient in a more intelligent and less expensive manner.

Preventive treatment is becoming more and more a responsibility of the practicing physician, in light of newer knowledge about many diseases and abnormal states.

Rehabilitation, as a special responsibility, occupies a prominent place in the treatment of many conditions, and newer skills in the field bring this phase of treatment into utilization where it has never been before. Take the field of peripheral vascular diseases for example. Time was when this field seemed to belong to surgeons alone. Then specialists in internal medicine became interested. The broadening interest of the cardiologist contributed much, and in many institutions the department of cardiology enlarged to become a department of cardiovascular diseases. The pharmacologist investigated the effectiveness of certain and many drugs to determine the influence on vascular tone. There was a time when patients with peripheral vascular disease were turned over to the therapist in physical medicine with permission and a plea for him to take over the treatment. All of this changing concept in treatment implies the advisability and necessity of teamwork of several interests and skills in the pattern of modern treatment of many diseases and abnormal conditions.

The single specific drug or remedy for a given disease or abnormal state is continually being sought. That goal has been reached in many instances. Then it becomes the challenge to find a better preparation, or another type of the same preparation for different methods of administration, as the circumstances of the illness and its complications demand. Under effective treatment, complications and the character of the complications may change. Restless research continues to seek more effective drugs and methods for the treatment of the complications.

When a single more or less specific therapeutic measure is not available, the scope of treatment becomes greater. Thorough diagnostic study includes an appraisal of function in relationship to structure, and interpretation of disturbed physiology and altered metabolism in relationship to symptoms. For the treatment of these symptoms, which, indeed, may have a sound scientific basis, a number of potent and effective drugs and chemicals, or other therapeutic agents, are available; the choice of the most suitable drugs or other agents for the individual case and its variations is an expression of skill in the therapeutic phase of the practice of medicine.

With research clarifying the cause and nature of many diseases, preventive measures are a part of medical treatment. Psychiatry, formal or informal, is of increasing importance in the care of the sick. Methods of rehabilitation become a part of treatment, both to help the patient to cope with the mental and emotional strain of disease, and to assist him in his return to a useful, productive and acceptably active life.

Antibiotic agents, newer anesthetics and skills in anesthesia, increasing surgical skill and refined techniques, new instruments of precision, better preoperative preparation and more effective postoperative methods of care, have contributed extensively to the surgical treatment of certain conditions for which, formerly, surgical treatment was impossible. So, in addition to comprehensive and rapid changes in the concepts of medical treatment, the scope, skills and accomplishments of surgical treatment must be coordinated and integrated, today more than ever, in the proper selection of therapeutic measures for the individual patient.

Now, to get back to the young physician who is establishing his practice in the area having about 4,000 population and working with four colleagues who represent a variety of experience and medical educational background, dating back over different segments of a span of professional life. He knows the current views and approach to treatment. Will his medical school and hospital training have acquainted him sufficiently with the changing concepts of treatment over the professional life span of the other four physicians? And will the other four physicians have kept up with medical progress to allow these five physicians to speak the same language in the consultation room, and to meet each other in a cooperative and uncritical manner which the contacts of everyday practice will require? If so, the efforts and methods in medical education, undergraduate, postgraduate and continued self-education will have met the challenge in the changing concepts of medical treatment.

Curiosity, intensity of purpose, healthy skepticism, the spirit of research and desire of contribution to further knowledge, will not allow the concept of treatment to remain static—ever.

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